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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/980,366	11/28/2001	Akio Ishii	KIUI-BQ23	1338

21611 7590 07/02/2003

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EXAMINER

MARCANTONI, PAUL D

ART UNIT PAPER NUMBER

1755

DATE MAILED: 07/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

My

# Office Action Summary

Application No. 09/980,366	Applicant(s) Ishii et al.	
Examiner Paul Marcontani	Group Art Unit 1755	

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

### Period for Response

A SHORTENED STATUTORY PERIOD FOR RESPONSE IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a response be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for response specified above is less than thirty (30) days, a response within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for response is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to respond within the set or extended period for response will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

### Status

- Responsive to communication(s) filed on 6/3/03
- This action is FINAL.
- Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

### Disposition of Claims

- Claim(s) 1, 2, 4, 5, & 7-12 is/are pending in the application.
- Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- Claim(s) \_\_\_\_\_ is/are allowed.
- Claim(s) 1, 2, 4, 5, & 7-12 is/are rejected.
- Claim(s) \_\_\_\_\_ is/are objected to.
- Claim(s) \_\_\_\_\_ are subject to restriction or election requirement.

### Application Papers

- See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- The proposed drawing correction, filed on \_\_\_\_\_ is  approved  disapproved.
- The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- The specification is objected to by the Examiner.
- The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. § 119 (a)-(d)

- Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
  - All  Some\*  None of the CERTIFIED copies of the priority documents have been received.
  - received in Application No. (Series Code/Serial Number) \_\_\_\_\_.
  - received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

### Attachment(s)

- Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_
- Interview Summary, PTO-413
- Notice of References Cited, PTO-892
- Notice of Informal Patent Application, PTO-152
- Notice of Draftsperson's Patent Drawing Review, PTO-948
- Other \_\_\_\_\_

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Applicant's arguments filed 6/3/03 have been fully considered but they are not persuasive.

**Rejection:**

Claims 1, 2,4, 5, and 7-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al. '030.

**35 USC 112 Second Paragraph:**

Claims 9-12 are rejected under 35 U.S.C. 112, second paragraph, as failing to set forth the subject matter which applicant(s) regard as their invention.

The term "improved" is indefinite as stated in the first two lines of claim 9 as well as its presence in claims 10-12 and should be removed from the claims.

**New Matter:**

Claims 1,2,4, 5, 7, and 8 are rejected under the first paragraph of 35 USC 112 and 35 USC 132 as the specification as originally filed does not provide support for the

as is now claimed.

The broad terms added of "refractory metal oxide" is not supported by the original disclosure and is new matter in claims 1 and 2 as well as its dependent claims. There is support for only alumina or alumina replaced by one or two or more materials out the powder of zircon, magnesia, mullite, spinel, and silica. This list of refractory materials is all applicants have support for and they do not have support for any or all refractory materials which is presently the case as applicants are now claiming. Had applicants limited their independent claims by combining their original independent claims with alumina and the original claim 4 limitation, it would have been acceptable. However, refractory material as present claimed is not supported by the original disclosure and is new matter.

Also, the terms "where the X-ray diffraction peak intensity ratio of the face (200) of the  $Ti_3O_5$  to the face of (111) of titanium carbide is 1% or less" is supported by original claim 3. However, it is new matter because it is only reflective of alumina as well as one or two or more materials out the powder of zircon, magnesia, mullite, spinel, and silica that are wholly or partly used as a replacement for alumina.

Claims 4 and 5 are new matter because it would appear that the language part or whole of alumina is replaced by the specific refractory materials of zircon, magnesia, mullite, spinel, and silica is required.

Claim 7 is new matter because the terms "enables the formation of high melting protective layer bound to the carbonaceous material" omits information critical to what is

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actually supported on page 14, lines 16-19 of the original disclosure. The original disclosure states:

*It is observed that a protective layer with a high melting point, in which a small amount of Ti dissolve therein, stick to the whole surface of the carbonaceous materials of the invention.*

The applicants claim 7 limitation is missing the word "point" after melting and is also missing the critical limitation that a small amount of Ti is dissolved therein. Applicants should have used the claim language as was actually stated in their disclosure with respect to these missing limitations.

In claim 8, it would appear that the terms "formation of a high melting protective layer is formed in the proximity of the refractory surface" would appear to be new matter. Again, applicants omit the word "point" after melting which without makes the claim limitation vague. Also, applicants are referred back to the last three lines of page 14 of their disclosure wherein it states:

*A protective layer with a high melting point was recognized which is formed at the interface between melted pig iron and the surface of the carbonaceous refractory material.*

The applicants omit the specific language (formed at the interface between melted pig iron and the surface of the carbonaceous refractory material) which is required by their original disclosure. The terms "formed at the proximity of the refractory surface (for the protective layer) is not only not supported but also it is vague because it does not specifically point out exactly where the protective layer is formed. Applicants

should have again stuck to the original limitations of their own disclosure and not omitted critical aspects of their invention.

Claim 10 contains new matter as well. The terms "wherein the particle size of the refractory metal oxide being sized in the range of *approximately* 2 microns to 3 microns constitute new matter. There is no support for any or all refractory metal oxides but only for alumina and those refractories specifically listed in their dependent claims. Further, there is no support for the word "approximately". Page 23 of applicants specification contains no "approximately" claim language and this term should not have been used.

The range of "approximately 1 micron to 74 microns" is also new matter because the original disclosure on page 23 only supports "74 microns or less" and there is no support for the word "approximately" nor 1 micron. This range thus represents new matter.

Claim 12 is new matter because there is no support for "approximately 7 microns". There is only support for "7 microns" and there is no support for the word "approximately" so this is also new matter.

**Response:**

The new matter rejections were necessitated by the applicants' amendment of claims as well as the addition of new claims. With respect to the rejection over Watanabe, the applicants state that Watanabe does not teach the limitation that the X ray diffraction peak intensity ratio of the face (200) of the Ti<sub>3</sub>O<sub>5</sub> to the face (111) of titanium carbide is 1% or less. Yet, the applicants would not appear to clarify if this

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feature is an expected feature for titanium carbide nor have they presented evidence that the Watanabe reference's titanium carbide does not have this feature. The applicants only state Watanabe "does not disclose this limitation" yet it is not determinable whether Watanabe does not actually have this physical feature because it is titanium carbide. Applicants would not appear to state that this feature cannot be found in the Watanabe TiC.

For the foregoing reasons, the rejection over Watanabe as well as the necessity of the new grounds of rejection based upon amendment and addition of new claims, the finality of this office action is now proper.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Marcantoni whose telephone number is (703)-308-1196. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Bell can be reached on (703) 308-3823. The fax phone numbers for the organization where this application or proceeding is assigned are (703)-872-9310 for regular communications and (703)-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.



Paul Marcantoni  
Primary Examiner  
Art Unit 1755